

International Niagara Board of Control
Ninety Third Semi-Annual Progress Report
to the
International Joint Commission



Covering the Period March 18 through September 14, 1999

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COVER: Pleasure boating on the upper Niagara River.

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INTERNET SITES

International Niagara Board of Control	http://www.cciw.ca/glimr/data/board-control/niagara.html
International Joint Commission	http://www.ijc.org/
Lake Erie-Niagara River Ice Boom	http://www.iceboom.nypa.gov

INTERNATIONAL NIAGARA BOARD OF CONTROL

Burlington, Ontario
Cincinnati, Ohio

September 14, 1999

International Joint Commission
Ottawa, Ontario
Washington, D. C.

Commissioners:

1. GENERAL

The International Niagara Board of Control (Board) submits its Ninety Third Semi-Annual Progress Report, covering the period March 18 to September 14, 1999.

2. ITEMS OF INTEREST

During the period of March through August 1999, the level of Lake Erie rose, peaked in May, and then declined. With little snowmelt in the spring, generally below average precipitation and lower inflows from Lake Huron, Lake Erie levels fluctuated very little during the period. The level was slightly above long-term average in March and April and slightly below long-term average in May, June, July and August. These levels were 40 to 60 centimetres (16 to 24 inches) below the levels recorded the year before. All of the Great Lakes, except Lake Superior, experienced dramatic drops in water levels over the last year, and all except Lake Erie have been below long-term average since the start of the year. Lake Erie's beginning of September water level at 174.10 metres (571.19 feet), some 11 centimetres (4.3 inches) below long-term average

was the lowest the lake has been at this time of year since 1967. However, the September lake level has been lower on 32 occasions this century, mostly before 1940.

The Power Entities (Ontario Power Generation Inc. (OPG) and the New York Power Authority (NYPA)) complied with the Board's 1993 Directive for regulation of Chippawa-Grass Island Pool water levels throughout the reporting period. The accumulated deviation of the pool's level from March 1, 1973 through August 31, 1999 was 0.84 metre-month (2.76 foot-months) above the long-term average elevation. All gauges required for the operation of the Chippawa-Grass Island Pool control structure were in operation during the reporting period. Falls flows were below minimum Treaty requirements on four occasions as the result of police operations.

A major long-term program to maintain and repair the decks above the gates of the control structure is nearing completion.

Discharge measurements were made in the Niagara River in the vicinity of the International Railway Bridge in May, 1999.

OPG has deferred making a decision on the Beck Diversion Project at Niagara Falls at this time. While the project has been shown to be environmentally sound, it has been decided that it would be prudent to gain further insight into the operation of the new competitive Ontario electricity market before committing to a project of this magnitude.

OPG's Ontario Power Generating Station (OPGS), located on the Canadian side of the Maid-of-the-Mist Pool, will be retired from service by December 1, 1999. The decision to retire this plant early was made to expedite construction of the new casino project on the Murray Hill site near the plant. Underground cables carrying power from the OPGS must be removed from the property adjacent to the casino site before construction work can start.

Removal of the Lake Erie - Niagara River ice boom was completed on March 30, 1999.

The Buffalo and Fort Erie Public Bridge Authority (Authority) received IJC approval for construction of a second bridge adjacent to the existing Peace Bridge which links Fort Erie, Ontario and Buffalo, New York. Local issues regarding the new bridge design and the review process have arisen that are delaying the start of construction.

3. **LAKE LEVELS**

All elevations in this report are referenced to International Great Lakes Datum 1985. The values are expressed in metric units, with approximate English units (in parentheses) for information purposes only. The monthly lake level data are based on a network of four gauges to better represent the average level of the lake.

During the months of March through August 1999, the level of Lake Erie fluctuated very little. With little snowmelt in the spring, generally below average precipitation and lower inflows from Lake Huron the level of Lake Erie peaked in May, somewhat earlier than normal. The level was slightly above long-term average in March and April and slightly below long-term average in May, June, July and August. These levels were about 1/2 metre (1-1/2 to 2 feet) below the levels recorded the year before. All of the Great Lakes, except Lake Superior, experienced dramatic drops in water levels over the last year. All the Great Lakes, except Lake Erie, have experienced consistently below long-term average water levels since the start of the year.

Inflows from the upper lakes for the six-month period March through August 1999, averaged 5270 m³/s (186,100 cfs), while the corresponding average for the period of record (1900–1989) is 5,430 m³/s (191,800 cfs).

The Lake Erie basin received approximately 40.3 centimetres (15.9 inches) of precipitation during the period March through August 1999. The period of record (1900–1995) average over

this six-month period is 48.5 centimetres (19.1 inches). The departure from average over the six-month period was -17 %.

At the beginning of the reporting period, the level of Lake Erie was continuing a seasonal rise, which had begun in January. The March water level was at 174.18 metres (571.46 feet). This was 0.11 metre (0.36 foot) above the March long-term average. The lake continued to rise into May, at which time the level peaked at 174.29 metres (571.82 feet). This was 0.02 metre (0.07 foot) below the long-term average for May. The lake remained below long-term average through the rest of the reporting period, and declined to 174.15 metres (571.36 feet) by August. This was 0.11 metre (0.36 foot) below long-term average. The September forecast indicates that the level of Lake Erie will remain below its long-term average and will continue its normal seasonal decline through the end of 1999.

Recorded water level and precipitation data for the period March through August 1999 and departures from long-term averages are shown in Tables 1 and 2 and depicted graphically on Figures 1 and 2.

TABLE 1 - MONTHLY AVERAGE LAKE ERIE WATER LEVELS

(Based on a network of 4 water level gauges)

International Great Lakes Datum (1985)

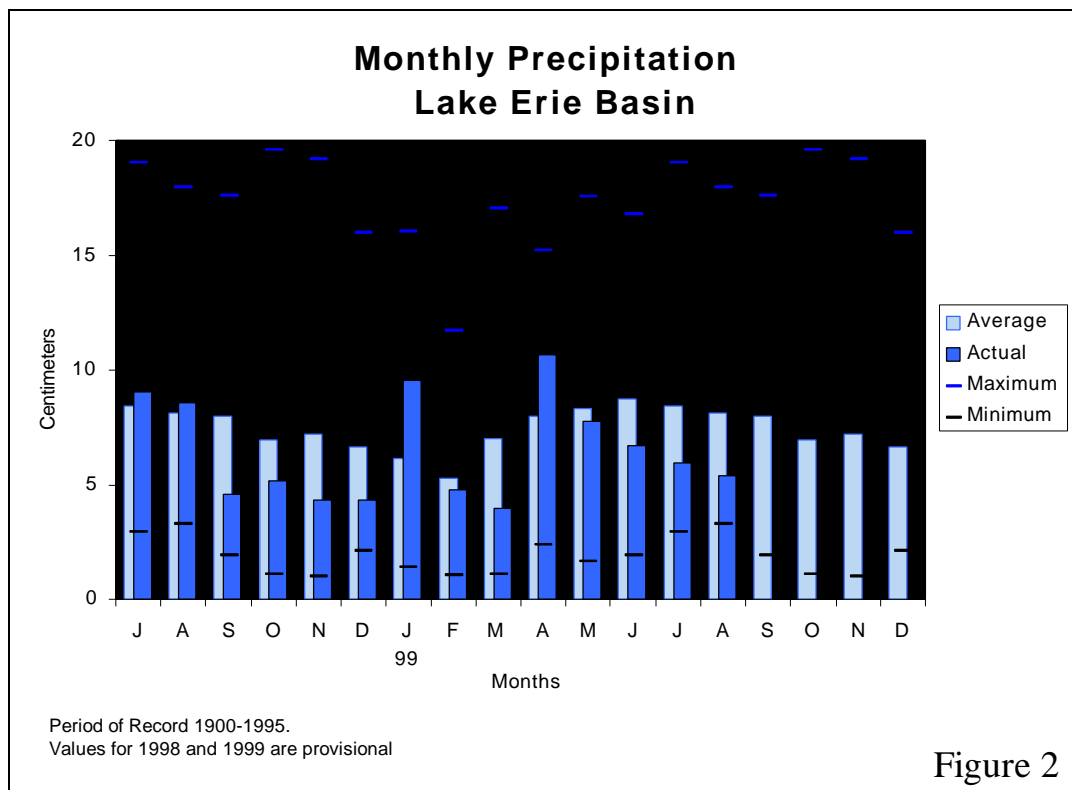
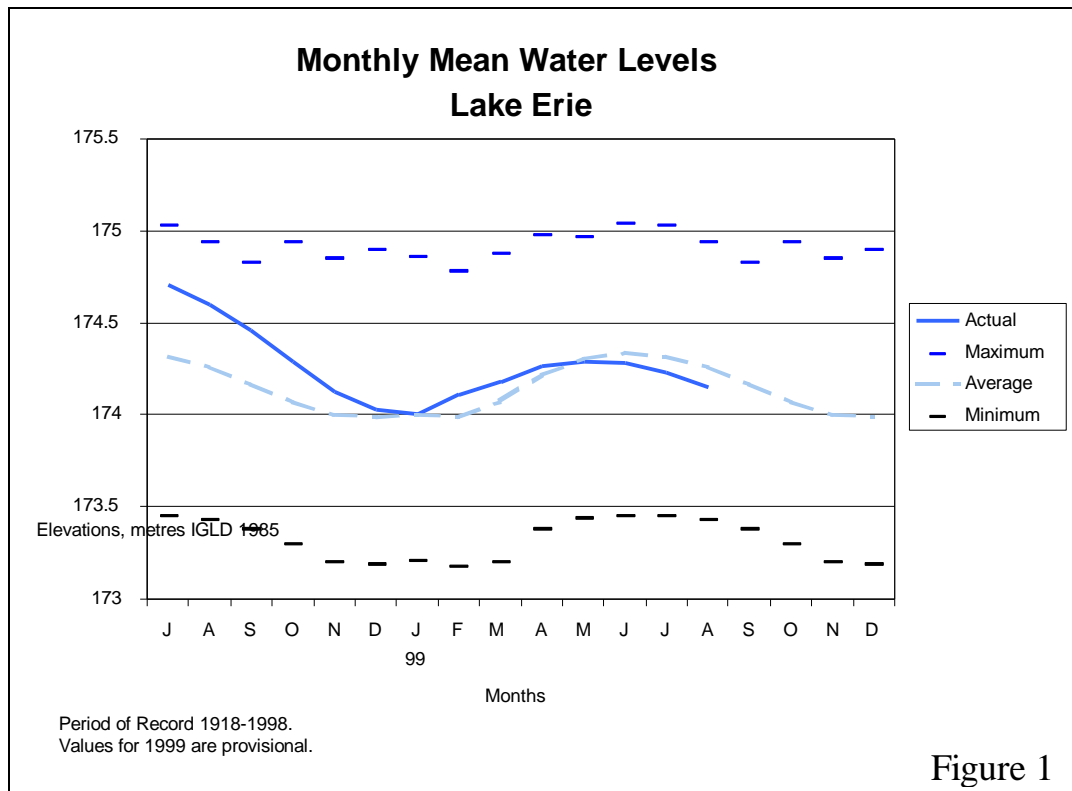
Month	Metres			Feet		
	Recorded*	Average		Recorded*	Average	
	1999	1918-98	Departure	1999	1918-98	Departure
March	174.18	174.07	+0.11	571.46	571.10	+0.36
April	174.26	174.22	+0.04	571.72	571.59	+0.13
May	174.29	174.31	-0.02	571.82	571.88	-0.06
June	174.28	174.34	-0.06	571.78	571.98	-0.20
July	174.23	174.32	-0.09	571.62	571.92	-0.30
August	174.15	174.26	-0.11	571.36	571.72	-0.36

*Provisional

TABLE 2 - MONTHLY AVERAGE PRECIPITATION ON THE LAKE ERIE BASIN

Month	Centimetres			Inches			
	Recorded*	Average		Recorded*	Average		Departure
	1999	1900-95	Departure	1999	1900-95	Departure	in percent
March	3.96	7.01	-3.05	1.56	2.76	-1.20	-43
April	10.64	7.95	+2.69	4.19	3.13	+1.06	+34
May	7.75	8.31	-0.56	3.05	3.27	-0.22	-7
June	6.71	8.71	-2.00	2.64	3.43	-0.79	-23
July	5.92	8.43	-2.51	2.33	3.32	-0.99	-30
August	5.36	8.10	-2.74	2.11	3.19	-1.08	-34

*Provisional



4. OPERATION AND MAINTENANCE OF THE CHIPPAWA-GRASS ISLAND POOL CONTROL STRUCTURE

The water level in the Chippawa-Grass Island Pool is regulated in accordance with the Board's 1993 Directive. The Directive requires that the Power Entities (Ontario Power Generation Inc. (OPG) and the New York Power Authority (NYPA)) operate the Chippawa-Grass Island Pool control structure to ensure the maintenance of an operational long-term average pool level of 171.16 metres (561.55 feet) to ameliorate adverse high or low water levels in the pool. The Directive also establishes certain tolerances for the pool's level as measured at the Material Dock gauge. The Power Entities complied with the Board's Directive throughout the reporting period.

The accumulated deviation of the pool's level from March 1, 1973 through August 31, 1999 was 0.84 metre-month (2.76 foot-months) above the long-term average elevation. The maximum permissible accumulated deviation is 0.91 metre-month (3.00 foot-months).

Tolerances for regulation of the Chippawa-Grass Island Pool levels were suspended for 1 day in each of April, June, July and August to assist in life saving/emergency operations.

Recorded daily Material Dock water levels covering the period March through August 1999 are shown in Enclosure 1. The location of the water level gauges on the Niagara River are shown in Enclosure 2.

The International Niagara Control Works is a gated structure extending from the Canadian shoreline about halfway across the width of the Niagara River and is located about 1370 metres (4,500 feet) upstream from the Falls. This control structure consists of the 13 gates completed in 1957 and a 5-gate extension finished in 1963. The structure is operated jointly by the Power Entities and is used to meet the minimum Falls flow requirements and regulate the water levels in the Chippawa-Grass Island Pool for power diversions.

The Power Entities are completing a major long-term program to maintain and repair the control structure. This year, the decks over gates 10 and 11 were lifted for about three months each to allow for removal of deteriorated concrete and application of new concrete and seals to the beam seats and ends of the pre-cast beams of the decks. The work will be finished this fall. Similar repairs, required on the decks above 11 of the original 13 gates have been completed over the period since 1982. The decks above the remaining 5 gates, 14 through 18, are a different design not requiring these repairs.

5. **FLOWS OVER NIAGARA FALLS**

During the tourist season daylight hours, the required minimum Niagara Falls flow is 2832 m³/s (100,000 cfs). At night and during the winter months, the required minimum Falls flow is 1416 m³/s (50,000 cfs). The operation of the Chippawa-Grass Island Pool control structure, in conjunction with power diversion operations, ensures sufficient flow over the Falls to meet the requirements of the Niagara Treaty of 1950.

On April 3, 1999, the Niagara Parks Police requested water levels be lowered to allow the rescue of a fisherman stranded on rocks just above the whirlpool. Gates at the International Niagara Control Works were operated to reduce flow in this portion of the lower Niagara River. The rescue was successfully completed with the assistance of the Erie County Sheriff's helicopter. The reduction resulted in Falls flow below the minimum Treaty requirement of 2832 m³/s (100,000 cfs) with values of 1962 m³/s (69,290 cfs) and 2793 m³/s (98,630 cfs) for the hours ending 10:00 and 11:00 Eastern Standard Time (E.S.T.) respectively.

On June 23, 1999, at the request of police and fire officials, certain gates of the International Niagara Control Works remained closed to reduce the downstream water level in order to assist in removal of a body and to conduct an investigation. Falls flow was recorded as 2674 m³/s (94,430 cfs), below the Treaty minimum, for the hour ending 08:00 E.S.T.

On July 7, 1999, the gates of the International Niagara Control Works were operated to raise the water level to recover a disabled boat from a shoal in the Chippawa-Grass Island Pool. This was also in response to a request from the police. The reduction in downstream flow contributed to a successful rescue, however, there was a deficiency in Falls flow with $2577 \text{ m}^3/\text{s}$ (91,010 cfs) recorded at 20:00 hours E.S.T.

On August 25, 1999, the New York State Parks Police requested the water level in the rapids above the Falls be lowered to allow for rescue of a person from the river near the Three Sisters Islands. Adjustment of gate settings to comply with this request resulted in a violation of minimum Falls flows with a value of $2308 \text{ m}^3/\text{s}$ (81,510 cfs) recorded for the hour ending 20:00 E.S.T.

Falls flows met or exceeded minimum Treaty requirements at all other times during the reporting period. The recorded daily flows over Niagara Falls, covering the period March through August 1999, are shown in Enclosure 3.

6. **DIVERSIONS AND FLOW AT QUEENSTON**

Diversion of water from the Niagara River for power purposes is governed by the terms and conditions of the 1950 Niagara Treaty. The Treaty prohibits the diversion of Niagara River water that would reduce the flow over Niagara Falls to below the amounts specified for scenic purposes.

The high head hydro power plants, OPG's Sir Adam Beck 1 and 2 in Canada and NYPA's Niagara Power Project in the United States, withdraw water from the Chippawa-Grass Island Pool and discharge it into the lower Niagara River at Queenston, Ontario and Lewiston, New York, respectively. During the period March through August, 1999, diversion flows for the Sir Adam Beck 1 and 2 plants averaged $1665 \text{ m}^3/\text{s}$ (58,800 cfs) and those by the Niagara Power Project averaged $1788 \text{ m}^3/\text{s}$ (63,140 cfs).

The low head hydro power plants, Canadian Niagara Power's (CNP) Rankin Plant and OPG's Ontario Power Generating Station (OPGS), divert water from the Cascades, just upstream of the Horseshoe Falls, and discharge it into the Maid-of-the-Mist Pool. Since the operating efficiencies of these two older plants are much lower than those of the high head plants, water that is available for power generation is normally dispatched on a priority basis to the high head plants, with the excess being directed to the low head installations. During the period March through August 1999, diversion flows for the CN and OPGS plants averaged $16 \text{ m}^3/\text{s}$ (560 cfs) and $28 \text{ m}^3/\text{s}$ (990 cfs), respectively. Records of Niagara River diversions for power generation covering the period March through August 1999 are shown in Enclosure 4.

The average diversion flow from Lake Erie to the Welland Canal for the period March through August 1999 was $212 \text{ m}^3/\text{s}$ (7,490 cfs). Diversion flows for power production at OPG's DeCew Generating Stations averaged $154 \text{ m}^3/\text{s}$ (5,440 cfs) from March through August 1999.

The monthly average Niagara River flows at Queenston, Ontario for the period March through August 1999, were:

March	5783 m ³ /s	(204,220 cfs)
April	5835 m ³ /s	(206,060 cfs)
May	5879 m ³ /s	(207,610 cfs)
June	5599 m ³ /s	(197,730 cfs)
July	5630 m ³ /s	(198,820 cfs)
August	5365 m ³ /s	(189,460 cfs)

During this period, the flow averaged 5682 m³/s (200,660 cfs). During the period March through August 1998 the average flow was 6927 m³/s (244,620 cfs) and the monthly averages ranged between 6462 m³/s (228,200 cfs) and 7249 m³/s (256,000 cfs).

7. **GAUGING STATIONS**

The Niagara River gauges used to monitor the Chippawa-Grass Island Pool levels and flows over Niagara Falls are Slater's Point, Material Dock, American Falls and Ashland Avenue gauges (see Enclosure 2). All gauges required for the operation of the Chippawa-Grass Island Pool control structure were in operation during the reporting period.

Both the U. S. National Oceanic and Atmospheric Administration and the Power Entities operate water level gauges at the Ashland Avenue location. Subject to continuing comparison checks of the water level data from both instruments by the International Niagara Committee (INC), the Power Entities' gauge is used for officially recording water levels used in determining the flows over

Niagara Falls. Comparison of water level readings from both gauges showed that they were within acceptable INC tolerances throughout the reporting period.

NYPA is continuing its effort to assess possible measures that might be used to stabilize the riverbank near the Ashland Avenue gauge. Topographic surveys of the underwater and above water areas near the gauge are to be conducted in the fall of 1999. From these, preliminary designs, material requirements, the construction feasibility, and costs for several alternatives will be developed. After this preliminary evaluation of possible mitigating measures is completed, NYPA will meet with OPG to discuss the costs and benefits. Based on those discussions, a decision will be made about whether and when any remedial work should be undertaken to ensure the long-term operation of the gauge.

Three gauges on the upper Niagara River, owned and operated by the U.S. Army Corps of Engineers, are now Y2K compliant. These gauges, Huntley Station, Tonawanda Island and LaSalle, had new equipment installed in April 1999.

8. **FLOW MEASUREMENTS IN THE NIAGARA RIVER AND WELLAND SHIP CANAL**

As part of a regular program aimed at verifying the stage-discharge relationships used to determine Niagara River flows, measurements were conducted near the International Railway Bridge on May 4-6, 1999. An Acoustic Doppler Current Profiler was used for all measurements, which were obtained through joint efforts of the United States Army Corps of Engineers and Environment Canada. A total of 123 measurements were taken. Preliminary review of these data indicates that the data are within field measurement tolerance. Work has begun to derive revised stage-discharge relationships for the Buffalo and Fort Erie gauges. The May 1999 measurements and future measurements will be used to verify these equations. Another set of measurements is scheduled for November 1999.

A report on discharge measurements at the Welland Canal Supply Weir was approved at the March 17, 1999 meeting of the International Niagara Committee. These measurements are used to verify the stage-discharge ratings used to calculate the amount of water entering the Welland Canal from Lake Erie. The report indicates that for the Lake Erie levels currently being experienced, the 1965 rating, formerly used, provides a slightly better determination of flow through the supply weir. Therefore, at the request of the Committee, a return to the 1965 rating was implemented by the St. Lawrence Seaway Management Corporation on June 1, 1999.

9. **POWER PLANTS**

a) New York Power Authority Niagara Power Project Expansion

The upgrade of the Robert Moses Niagara Power Plant (RMNPP) Unit 6 was completed and it returned to service on June 8, 1999. The next upgrade will be performed on Unit 3 and it is tentatively planned to begin on November 1, 1999 and be returned to service on June 30, 2000. Index tests of Units 3 and 6 will be done after the upgrade of Unit 3 is completed. Unit 12 will be upgraded after Unit 3 between October 2000 and June 2001.

b) Ontario Power Generation Inc. Niagara River Hydroelectric Development

On October 14, 1998, Ontario Hydro (now known as Ontario Power Generation Inc. (OPG)) was granted Environmental Assessment approval from the Government of Ontario to develop additional hydroelectric generating capacity on the Niagara River. The proposed Niagara River Hydroelectric Development, designed to divert water from the Chippawa-Grass Island Pool (upstream of Niagara Falls) to the Sir Adam Beck power complex, would eventually entail construction of two diversion tunnels, a powerhouse and associated transmission facilities.

By letter dated December 21, 1998, the Governments referred the matter to the International Joint Commission for its recommendations. On April 30, 1999 the Commission published its report regarding potential transboundary impacts of the proposed redevelopment. Based on the advice of its International Niagara Board of Control, comments from the U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service and following public consultation, the Commission “....concluded that construction and operation of the full project would not hinder operation of the Chippawa-Grass Island Pool control structure in accordance with the current directive governing its operations.”

OPG proposed phasing the project with construction of a single tunnel being the first step. Construction scheduling of the remaining tunnel, powerhouse and transmission facilities was not defined. In view of “...the uncertain schedule for construction and the potential for further information to become available...” the Commission “....recommended that Governments not interpose any objections regarding construction of the first phase of the proposed project” but suggested that “....Governments review the situation in the future prior to construction of the second phase of the proposed project.”

OPG has deferred making a decision on the Beck Diversion Project at Niagara Falls at this time. While the project has been shown to be environmentally sound, it has been decided that it would be prudent to gain further insight into the operation of the new competitive Ontario electricity market before committing to a project of this magnitude.

To date, five units at the Sir Adam Beck II Generating Station have been rehabilitated (including runner replacement). Unit G17 was returned to service in December, 1996, Unit G18 in September, 1997, Unit G26 in May, 1998, Unit G25 in October, 1998 and Unit G16 in June, 1999. Upgrade work started on Unit G15 in May, 1999, and is expected to continue until December, 1999.

A revised interim rating table, used to determine water usage, has been implemented as of July 27, 1999 with the concurrence of the International Niagara Committee's On-Site

Representatives. This interim table has been prepared from the results of testing done on the first three units upgraded. Two of these units underwent full performance tests using the Gibson method while the third was index tested.

The upgrades and expansions by the Power Entities will not affect the regulation of the Chippawa-Grass Island Pool water levels as governed by the International Niagara Board of Control's Directive. In addition, they will not require any modifications to other rules or regulations (such as the 1950 Niagara Treaty) relating to the diversion of water for operation of the projects.

OPG's Ontario Power Generating Station (OPGS), located on the Canadian side of the Maid-of-the-Mist Pool, will be retired from service by December 1, 1999. The decision to retire this plant early was made to expedite construction of the new casino project on the Murray Hill site near the plant. Underground cables carrying power from the OPGS must be removed from the property adjacent to the casino site before construction work can start.

10. **ICE CONDITIONS AND ICE BOOM OPERATIONS**

With air temperatures 2 to 3°C below normal during the first half of March, some Lake Erie ice formed but it was thinner and covered a much smaller area than normal. By the third week in March the ice had dissipated sufficiently to begin opening the ice boom. Strong westerly winds from March 16 through 20 forced ice over or around the boom and into the Niagara River. The rotten lake ice moved through the Chippawa-Grass Island Pool without incident; however, there was some reduction of flow over the American Falls for a short time on March 19 as ice jammed in the American Falls Channel.

The opening of the Lake Erie-Niagara River Ice Boom was to begin on March 24. However, the steady flow of ice into the river from the Buffalo Harbor area continued through March 25. This delayed the boom opening due to the difficulty posed in towing boom spans out of the lake through the

ice to the storage area. The boom removal was re-scheduled to March 29 but high winds and wave action at that time further delayed boom opening until March 30. All of the boom's 22 spans were opened and removed on that day and subsequently removed to the on-shore storage area by April 1. Only a trace of ice remained in the eastern portion of Lake Erie at the time of boom opening.

Under the current Commission Order of Approval, installation of the Lake Erie-Niagara River Ice Boom may not begin until the Lake Erie water temperature at Buffalo reaches 4 degrees Celsius (°C) (39 degrees Fahrenheit (°F)). For the most recent 30 year period, December 16 is the average date on which the water temperature reaches this value. There have been times when the water temperature has not reached this point until much later in the winter. The most recent occurrence was last season when the water temperature did not reach 4°C (39°F) until January 1, 1999. Strong winds delayed the start of installation until January 2. Stormy conditions with below freezing air temperatures further delayed completion of span placement until January 9.

The situation of the water temperature being at or above the defined 4°C (39°F) installation point beyond the average date (December 16), combined with the onset of winter conditions, can present a substantive safety risk for the personnel responsible for installing the boom. It also presents the real possibility that installation may not be completed before a major ice run occurs.

A review of the ice boom's operation is conducted by the IJC when necessary, but no less frequently than once every five years. As part of a current review, the Board concludes that the installation criterion should be modified to decrease the previously noted risks. This will be accomplished by maintaining the present 4°C (39°F) water temperature requirement but establishing the fixed date of December 16 when installation may begin should the water temperature remain above that point. The Board made this recommendation to the Commission by letter dated September 9, 1999. The Board also concluded that the ice boom continues to perform as intended.

11. **PEACE BRIDGE**

On April 30, 1999, the International Joint Commission issued an Order of Approval to the Buffalo and Fort Erie Peace Bridge Authority for construction of a second span over the Niagara River between Buffalo, New York and Fort Erie, Ontario. Since then, local issues regarding the new bridge design and the review process have arisen that are delaying the start of construction. A judicial decision by a New York State Supreme Court Justice concerning the current litigation is expected on September 30, 1999 unless the parties can reach a settlement earlier.

As part of this Order of Approval, it is required that water levels upstream and downstream of the bridge be monitored during construction and for at least 10 years after. This is to be done to determine what effect, if any, the bridge may have on Lake Erie levels and outflows.

On June 30, 1999, a gauge was reinstalled by the Canadian Hydrographic Service, at the location of a previous Environment Canada gauge, about 450 metres (1500 feet) downstream of the Peace Bridge on the Canadian side of the river. On the U.S. side of the river several new and existing gauge locations downstream of the bridge were investigated. It was determined that the existing gauge at Anderson Park on Squaw Island was well situated for the purpose of this monitoring. The gauge, owned and operated by the U.S. Geological Survey, will be upgraded, with the cooperation of the Peace Bridge Authority, to provide duplication of water level determination and real-time access to the data.

12. **STRAWBERRY ISLAND**

This small island, located in the upper Niagara River between the International Railway Bridge and the southern tip of Grand Island, New York, is owned by the State of New York. It is a significant habitat in terms of fish and avian ecology.

As noted in previous reports, observations in December of 1992 showed that the river had broken through a narrow strip of beach along the southwestern (upstream) perimeter of the island. An alliance of government agencies, business interests and private individuals developed and implemented a plan to mitigate the island erosion. Construction of a low profile rock riprap berm with a centre core of sand, gravel and organic material was completed in December 1993. This stabilized the area formerly breached and the rough surface caused sand and gravel to accrete at the toe of the structure. Erosion control vegetation was subsequently planted.

The New York State Department of Environmental Conservation and the New York State Office of Parks, Recreation and Historic Preservation now propose placement of stone and earthen material into the river in order to extend the western and eastern arms of the island downstream. Plans are to then place hydric soils, obtained from the Buckhorn State Park Marsh Restoration Project, in the river along the inside of the arm extensions. This will provide a substrate for wetland vegetation to naturally vegetate. As a result, it is anticipated that about 1 hectare (3acres) of emergent wetlands in the near shore area of the island will be restored.

The Fort Erie and Buffalo Peace Bridge Authority will contribute resources and possibly engineering services as mitigation for the impact on valuable habitat area in the upper Niagara River from construction of the new bridge.

The Board understands that the proponents will consult with the U.S. Department of State and the Department of Foreign Affairs and International Trade regarding this undertaking in boundary waters.

13. MEETING WITH THE PUBLIC

In accordance with the Commission's requirements, the Board held an annual meeting with the public on September 14, 1999 in Niagara Falls, Ontario. Although sparsely attended, those present

received information on the Board's membership, duties, Great Lakes water levels and the Lake-Erie Niagara River Ice Boom. A presentation was given by Mr. Randy Crissman, of the New York Power Authority, detailing the proposal to modify the Commission's Order of Approval for installation of the boom.

The location and date of the next annual meeting with the public will be determined later. The Board appreciates Commission participation in the meetings.

14. **MEMBERSHIP OF THE BOARD**

Brigadier General Robert H. Griffin, Commander of the United States Army's Great Lakes and Ohio River Division, became Chair of the United States Section of the Board on August 9th, 1999. He replaces Brigadier General Hans A. Van Winkle who is now in Washington, D.C. as the Corps' Deputy Commanding General for Civil Works. The remaining membership of the Board and its International Niagara Working Committee is unchanged.

15. **ATTENDANCE AT BOARD MEETINGS**

The Board met once during this reporting period on September 14, 1999 in Niagara Falls, Ontario with all Board members in attendance.

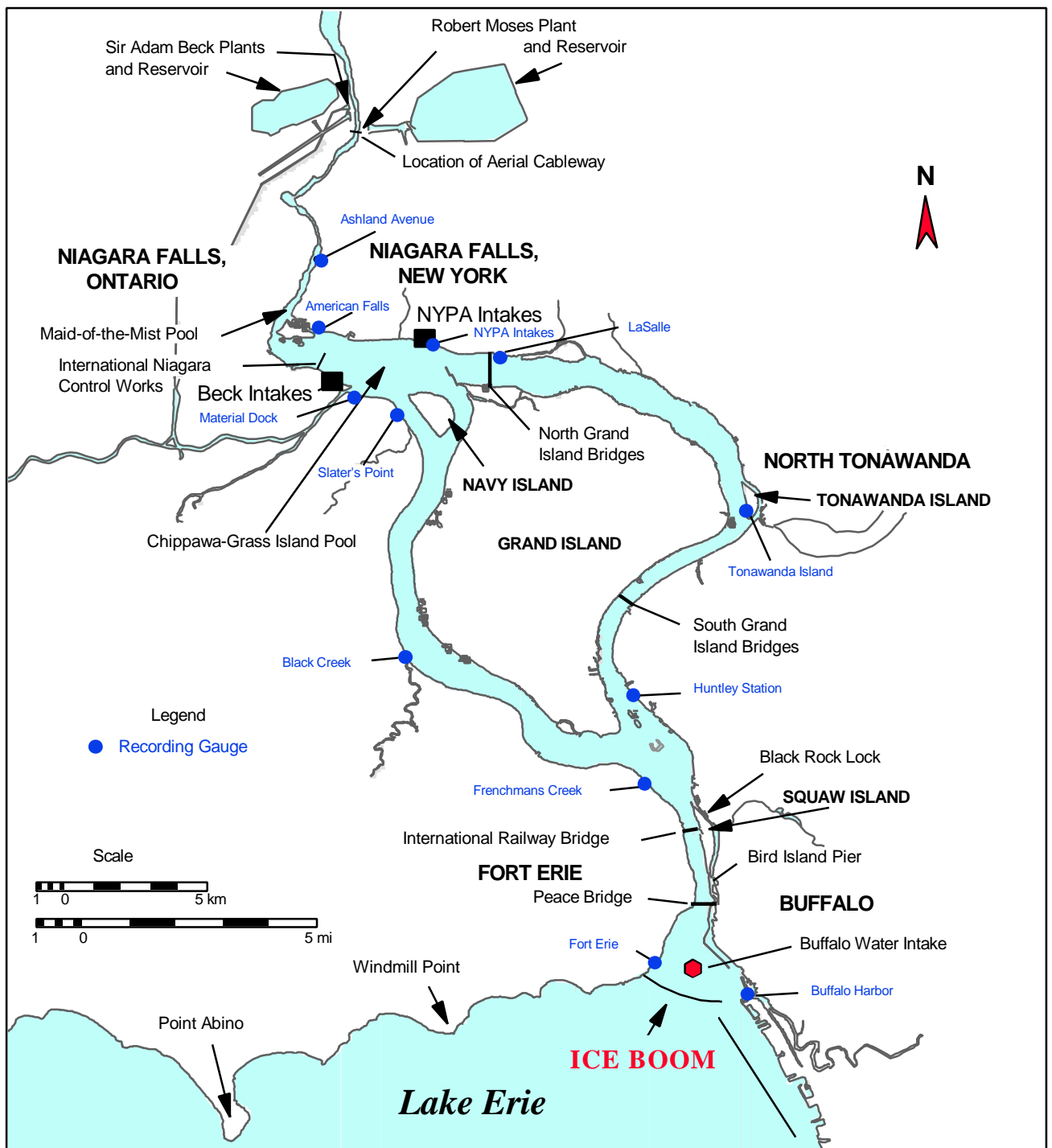
Respectfully Submitted,

DOUG CUTHBERT
Chair, Canadian Section

BRIGADIER GENERAL ROBERT H. GRIFFIN
Chair, United States Section

ROBERT B. CHANG
Member, Canadian Section

CONSTANTINE G. TJOUMAS
Member, United States Section



MAP OF UPPER NIAGARA RIVER